

IN THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference extending about a longitudinal stent axis and being substantially independently expandable in a radial direction, each cylindrical element being arranged in alignment along the longitudinal stent axis and formed in a generally serpentine wave pattern transverse to the longitudinal axis and containing alternating valley portions and peak portions, wherein at least two adjacent valley portions and two adjacent peak portions on each cylindrical element have differing longitudinal lengths which permit nesting when the stent is crimped or collapsed; and
at least one substantially linear shaped interconnecting member extending between and connecting adjacent cylindrical elements to one another.
2. (Canceled)
3. (Previously Presented) The stent of claim 1, wherein:
one valley portion is a V-shaped portion and the other adjacent valley portion is a W-shaped portion having different longitudinal lengths.
4. (Original) The stent of claim 3, wherein:
the W-shaped valley portion is smaller in length than the V-shaped valley portion.

5. (Canceled)

6. (Previously Presented) The stent of claim 1, wherein:

one peak portion is a V-shaped portion and the adjacent peak portion is a W-shaped portion having different longitudinal lengths.

7. (Original) The stent of claim 6, wherein:

the W-shaped peak portion has a longitudinal length less than the V-shaped peak portion.

8. (Currently Amended) A stent for implanting in a body lumen, comprising:

a plurality of adjacent cylindrical elements each having a circumference extending about a longitudinal stent axis and being substantially independently expandable in a radial direction, each cylindrical element being arranged in alignment along the longitudinal stent axis and formed in a generally serpentine wave pattern transverse to the longitudinal axis and containing alternating valley portions and peak portions, wherein at least two adjacent valley portions or two adjacent peak portions on each cylindrical element are capable of nesting when the stent is crimped or collapsed; and

a plurality of substantially linear shaped interconnecting members extending between the adjacent cylindrical elements and connecting adjacent cylindrical elements to one another, wherein at least two adjacent peak portions in each cylindrical element have differing longitudinal lengths which permit nesting and at least two adjacent valley portions in each cylindrical element have differing longitudinal lengths which permits nesting of the valley portions.

9. (Original) The stent of claim 8, wherein:

one peak portion is a V-shaped portion and an adjacent peak portion is a W-shaped portion and one valley portion is a V-shaped portion and an adjacent valley portion is a W-shaped portion.

10. (Original) The stent of claim 9, wherein:

the W-shaped portion of both the valley portion and peak portion has a longitudinal length smaller than the V-shaped portion of the peak portion and valley portion.

11. (Currently Amended) A stent for implanting in a body lumen, comprising:

a plurality of adjacent cylindrical elements each having a circumference extending about a longitudinal stent axis and being substantially independently expandable in a radial direction, each cylindrical element being arranged in alignment along the longitudinal stent axis and formed in a generally serpentine wave pattern transverse to the longitudinal axis and containing alternating valley portions and peak portions, wherein at least two adjacent valley portions and two adjacent peak portions on each cylindrical element are capable of nesting when the stent is crimped or collapsed; and

at least one substantially linear shaped interconnecting member extending between and connecting adjacent cylindrical elements to one another, the interconnecting members connecting W-shaped valley portions with V-shaped valley portions of adjacent cylindrical elements.

12. (Canceled)

13. (Previously Presented) The stent of claim 10, wherein:
the interconnecting member connects W-shaped valley portions with V-shaped valley portions on adjacent cylindrical elements.

14. (Original) The stent of claim 13, wherein:
each cylindrical element has a plurality of valley portions having a W-shape and wherein adjacent cylindrical elements are arranged so that the W-shaped valley portions are out of phase.

15. (Previously Presented) The stent of claim 13, wherein:
each cylindrical element has at least two peak portions which are W-shaped portions and two valley portions which are W-shaped portions.

16. (Original) The stent of claim 15, wherein:
the W-shaped peak portion and W-shaped valley portion are arranged adjacent to each other on each cylindrical element.

17. (Currently Amended) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference extending about a longitudinal stent axis and being substantially independently expandable in a radial direction, each cylindrical element being arranged in alignment along the longitudinal stent axis and formed in a generally serpentine wave pattern transverse to the longitudinal axis and containing alternating valley portions and peak portions, wherein at least two adjacent valley portions and two adjacent peak portions on each cylindrical element are capable of nesting when the stent is crimped or collapsed

and each cylindrical element includes at least four valley portions having a W-shaped portion; and

at least one substantially linear shaped interconnecting member extending between and connecting adjacent cylindrical elements to one another.

18. (Original) The stent of claim 17, wherein:

each cylindrical element has four valley portions having a V-shape which are adjacent to each of the W-shaped valley portions.

19. (Original) The stent of claim 18, wherein:

the W-shaped valley portion on each cylindrical element has a longitudinal length which is less than the longitudinal length of an adjacent V-shaped valley portion.

20. (Original) The stent of claim 19, wherein:

each cylindrical element has eight peak portions and eight valley portions.

21. (Original) The stent of claim 1, wherein:

the stent is expandable from a collapsed position to an expanded position by the application of a controlled external force.

22. (Original) The stent of claim 1, wherein:

the stent is made from a self-expanding material which allows the stent to move between a collapsed position and an expanded position.

23. (Previously Presented) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference
extending about a longitudinal stent axis and being substantially independently
expandable in a radial direction, each cylindrical element being arranged in alignment
along the longitudinal stent axis and formed in a generally serpentine wave pattern
transverse to the longitudinal axis and containing alternating valley portions and peak
portions, wherein at least two adjacent valley portions and two adjacent peak portions on
each cylindrical element have differing longitudinal lengths which permit nesting when
the stent is crimped or collapsed; and
means for connecting adjacent cylindrical elements together.

24. (Previously Presented) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference
extending about a longitudinal stent axis and being substantially independently
expandable in a radial direction, each cylindrical element being arranged in alignment
along the longitudinal stent axis and formed in a generally serpentine wave pattern
transverse to the longitudinal axis containing alternating valley portions and peak
portions, wherein at least two adjacent valley portions and two adjacent peak portions on
each cylindrical element are capable of nesting when the stent is crimped or collapsed
and each cylindrical element includes at least one peak portion having a W-shaped
portion and at least one valley portion having a W-shaped portion which are arranged
adjacent to each other; and
at least one interconnecting member extending between and connecting
adjacent cylindrical elements to one another.

25. (Previously Presented) The stent of claim 24, wherein:
each cylindrical element includes a plurality of W-shaped peak portions and a plurality of W-shaped valley portions, wherein a W-shaped peak portion is arranged adjacent to a W-shaped valley portion.
26. (Previously Presented) The stent of claim 25, wherein:
each cylindrical element includes a V-shaped peak portion adjacent to the W-shaped peak portion and a V-shaped valley portion adjacent the W-shaped valley portion.
27. (Previously Presented) The stent of claim 26, wherein:
the V-shaped peak portion adjacent to the W-shaped peak portion has a different longitudinal length than the W-shaped peak portion and the V-shaped valley portion adjacent the W-shaped valley portion has a different longitudinal length than the W-shaped peak portion.
28. (Previously Presented) The stent of claim 26, wherein:
an interconnecting member connects a V-shaped peak portion of one cylindrical element to a W-shaped peak portion of an adjacent cylindrical element.
29. (Previously Presented) The stent of claim 26, wherein:
an interconnecting member connects a V-shaped valley portion of one cylindrical element to a W-shaped valley portion of an adjacent cylindrical element.

30. (Previously Presented) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference
extending about a longitudinal stent axis and being substantially independently
expandable in a radial direction, each cylindrical element being arranged in alignment
along the longitudinal stent axis and formed in a generally serpentine wave pattern
transverse to the longitudinal axis and containing alternating valley portions and peak
portions, wherein at least two adjacent valley portions and two adjacent peak portions on
each cylindrical element are capable of nesting when the stent is crimped or collapsed;
and

at least one interconnecting member extending between and connecting
adjacent cylindrical elements to one another, at least one cylindrical element including a
V-shaped peak portion, a V-shaped valley portion, a W-shaped peak portion and a W-
shaped valley portion, the V-shaped peak portion and the W-shaped valley portion being
connected by interconnecting members to an adjacent cylindrical element and the V-
shaped valley portion and the W-shaped peak portion being connected by interconnecting
members to an opposite adjacent cylindrical element.

31. (Previously Presented) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference
extending about a longitudinal stent axis and being substantially independently
expandable in a radial direction, each cylindrical element being arranged in alignment
along the longitudinal stent axis and formed in a generally serpentine wave pattern
transverse to the longitudinal axis and containing alternating valley portions and peak
portions, wherein at least two adjacent valley portions and two adjacent peak portions on
each cylindrical element are capable of nesting when the stent is crimped or collapsed;
and

at least one interconnecting member extending between and connecting adjacent cylindrical elements to one another, at least one cylindrical element having a W-shaped peak portion connected to a peak portion of an adjacent cylindrical element and a W-shaped valley portion connected to a valley portion of an opposite adjacent cylindrical element.

32. (New) A stent for implanting in a body lumen, comprising:
a plurality of adjacent cylindrical elements each having a circumference extending about a longitudinal stent axis and being substantially independently expandable in a radial direction, each cylindrical element being arranged in alignment along the longitudinal stent axis and formed in a generally serpentine wave pattern transverse to the longitudinal axis and containing alternating valley portions and peak portions, wherein each cylindrical element includes a W-shaped valley portion adjacent to a W-shape peak portion with a V-shaped peak portion adjacent to the W-shaped valley portion and a V-shaped valley portion adjacent to the W-shaped peak portion, the W-shaped portions having a longitudinal length less than the longitudinal length of the V-shaped portion to permit nesting of the valley and peak portions when the stent is crimped or collapsed; and
at least one interconnecting member extending between and connecting adjacent cylindrical elements to one another.

33. (New) The stent of claim 32, wherein:
at least one interconnecting member connects a V-shaped peak portion of one cylindrical element with a W-shaped peak portion of an adjacent cylindrical element.

34. (New) The stent of claim 33, wherein:

at least one interconnecting member connects a V-shaped valley portion of one cylindrical element with a W-shaped valley portion of an adjacent cylindrical element.

35. (New) The stent of claim 32, wherein:

each cylindrical element has a plurality of valley portions having a W-shape and a plurality of peak portions having a W-shape and adjacent cylindrical elements are arranged so that the W-shaped valley portions and W-shaped peak portions are out of phase.